
**Reciprocating internal combustion
engines — Fire protection**

*Moteurs alternatifs à combustion interne — Protection contre
l'incendie*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

This third edition cancels and replaces the second edition (ISO 6826:1997), which has been technically revised.

The main changes are as follows:

- additional applied fields, including engines used to propel agricultural tractors, road construction and earth-moving machines, have been covered;
- referenced standards have been updated;
- additional requirements on flammable gases have been added;
- additional requirements on flame-retardant characteristics of non-metal components, including hose and plastic components, have been added;
- additional requirements on ground connection as well as protection of electrical components have been added;
- additional requirements on after-treatment system for exhaust gas have been added;
- requirements of piping for flammable liquids or gases are included in basic class;
- detailed requirements for marine engines have been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Reciprocating internal combustion engines — Fire protection

1 Scope

This document establishes requirements for reciprocating internal combustion engines to minimize the risk of fire caused by the engine, its components and the auxiliaries fitted to it. Where necessary, special requirements can be given for particular engine applications.

This document applies to reciprocating internal combustion engines for land and marine use, excluding engines used in an explosive atmosphere, road vehicles and aircraft.

This document can also apply to engines used to propel small craft and for other applications where no suitable International Standard for fire protection on reciprocating internal combustion engines exists.

For engine applications excluded above, this document can be used as the basis for engine application standards.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7840, *Small craft — Fire-resistant fuel hoses*

ISO 8846, *Small craft — Electrical devices — Protection against ignition of surrounding flammable gases*

ISO 10088, *Small craft — Permanently installed fuel systems*

ISO 15540, *Ships and marine technology — Fire resistance of non-metallic hose assemblies and non-metallic compensators — Test methods*

ISO 15541, *Ships and marine technology — Fire resistance of non-metallic hose assemblies and non-metallic compensators — Requirements for the test bench*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

fire resistance

ability of a test specimen to withstand fire or give protection from it for a period of time

Note 1 to entry: Typical criteria used to assess fire resistance in a standard fire test are fire integrity, fire stability and thermal insulation.